

CLAIMS

1. A system for monitoring the use of heat energy
use of a heat transfer device within an apartment
5 unit comprising
a register/transmitter,
a pair of pressure/temperature transducers to
be connected proximate the upstream and downstream
sensing points of a heat transfer device for
10 supplying temperature and pressure data to said
register/transmitter,
said register/transmitter including
first computational means for periodically
multiplying the square root of the change in
15 pressure times the change in temperature from the
pressure and temperature data supplied from said
pair of pressure/temperature transducers,
accumulating means for accumulating the
computed square root of the change in pressure times
20 the change in temperature, and
means for periodically transmitting the
serial number of the heat transfer device and the
accumulated computed square root of the change in
pressure times the change in temperature, and
25 host computer means including
receiver means for receiving the serial
number and the accumulated computed square root of
the change in pressure times the change in
temperature and
30 second computational means for
identifying the specific heat
transfer device and

computing the BTU's of received
accumulated computed square root of the change in
pressure times the change in temperature with stored
catalog data for the specific heat transfer device
5 identified.

2. A system for monitoring the use of heat energy
use of a heat transfer device within an apartment
unit according to claim 1, wherein said second
10 computational means comprises means for multiplying
the accumulated computed square root of the change
in pressure times the change in temperature by

a. the time duration between the periodic
multiplying of the square root of the change in
15 pressure times the change in temperature,

b. 8.33, and

c. a constant defined by dividing a flow
rate by the square root of the pressure drop across
the heat transfer device for that flow rate as
20 defined in the manufacturer's catalogue for that
heat transfer device.

3. A system for monitoring the use of heat energy
use of a heat transfer device within an apartment
25 unit according to claim 1, wherein said means for
periodically transmitting the accumulated computed
square root of the change in pressure times the
change in temperature additionally transmits the
serial number of the heat transfer device and
30 wherein the host computer means receives as inputs
the specific type of heat transfer device associated
with that serial number and catalog data for that
specific type of heat transfer device.

4. A system for monitoring the use of heat energy use of a heat transfer device within an apartment unit comprising

a register/transmitter,

5 a pair of pressure/temperature transducers to be connected proximate the upstream and downstream sensing points of a heat transfer device for supplying temperature and pressure data to said register/transmitter,

10 said register/transmitter including

computational means for periodically multiplying the square root of the change in pressure times the change in temperature from the pressure and temperature data supplied from said

15 pair of pressure/temperature transducers, and

accumulating means for accumulating the computed square root of the change in pressure times the change in temperature and

means for periodically transmitting the
20 serial number of the heat transfer device and the accumulated computed square root of the change in pressure times the change in temperature.